5. LIST OF ACRONYMS AND DEFINITION OF TERMS

5.1 Acronyms

AL	Aquatic Life
ALU	Aquatic Life Use
ALUS	Aquatic Life Use Support
ANOVA	Analysis of Variance
BMP	Best Management Practice
CALM	Consolidated Assessment Listing Methodology
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CWA	Clean Water Act
DO	Dissolved Oxygen
DQO	Data Quality Objectives
EDAS	Ecological Data Application System
EMAP	Environmental Monitoring and Assessment Program
EPT	Ephemeroptera, Plecoptera, Trichoptera
FTE	Full Time Employees
GIS	Geographic Information System
GPS	Global Positioning System
HBI	Hilsenhoff Biotic Index
IBI	Index of Biological/Biotic Integrity
MACS	Mid-Atlantic Coastal Streams
NAWQA	National Water Quality Assessment Program
NCBI	North Carolina Biotic Index
NHD	National Hydrography Database
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
POTW	Publicly Owned Treatment Works
QA	Quality Assurance

QAPP	Quality Assurance Project Plan
QC	Quality Control
QHEI	Qualitative Habitat Evaluation Index
QMP	Quality Management Plan
RBP	Rapid Bioassessment Protocols
RCRA	Resource Conservation and Recovery Act
REMAP	Regional Environmental Monitoring and Assessment Program
RIVPACS	River Invertebrate Prediction and Classification System
RF3	River Reach File 3
SOP	Standard Operating Procedures
STORET	Data Storage and Retrieval System
TMDL	Total Maximum Daily Load
UAA	Use Attainability Analyses
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQ	Water Quality
WQS	Water Quality Standards
WWTP	Waste Water Treatment Plant

5.2 Definition of Terms

Accuracy	the degree of agreement between an observed value and an accepted reference value.
Ambient Monitoring	sampling and evaluation of receiving waters not necessarily associated with episodic perturbations.
Analysis of Variance	a general statistical method for comparing the mean response to different treatments using the ratio of among-group to between-group variance. The method has also been applied to estimating precision and quantifying sources of variance.
Antidegradation Statement	statement that protects existing designated uses and prevents high-quality waterbodies from deteriorating below the water quality necessary to maintain existing or anticipated designated beneficial uses.

Aquatic Assemblage	an association of interacting populations of organisms in a given waterbody, for example, fish assemblage or a benthic macroinvertebrate assemblage.
Aquatic Community	an association of interacting assemblages in a given waterbody, the biotic component of an ecosystem.
Aquatic Life Use	a beneficial use designation in which the waterbody provides suitable habitat for survival and reproduction of desirable fish, shellfish, and other aquatic organisms; classifications specified in state water quality standards relating to the level of protection afforded to the resident biological community by the state agency.
Beneficial Uses	desirable uses that water quality should support. Examples are drinking water supply, primary contact recreation (such as swimming), and aquatic life support.
Benthic Macroinvertebrates	animals without backbones, living in or on the sediments, of a size large enough to be seen by the unaided eye and which can be retained by a U.S. Standard No. 30 sieve (28 meshes per inch, 0.595 mm openings). Also referred to as benthos, infauna, or macrobenthos.
Benthos	see Benthic Macroinvertebrates.
Best Management Practice	an engineered structure or management activity, or combination of these, that eliminates or reduces an adverse environmental effect of a pollutant.
Bias	the systematic or persistent distortion of a measurement process which deprives the result of representativeness (i.e., the expected sample measurement is different than the sample's true value).
Biological Assessment or Bioassessment	an evaluation of the biological condition of a waterbody using surveys of the structure and function of the community of resident biota.
Biological Criteria or Biocriteria	narrative expressions or numerical values that describe the reference biological condition (structure and function) of aquatic communities inhabiting waters of a given designated aquatic life use. Biocriteria are based on the numbers and kinds of organisms present and are regulatory-based biological measurements.
Biological Diversity or Biodiversity	refers to the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequencies. For biological diversity, these items are organized at many levels, ranging from complete ecosystems to the biochemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, and genes.
Biological Indicator or Bioindicator	an organism, species, assemblage, or community characteristic of a particular habitat, or indicative of a particular set of environmental conditions.

Biological Integrity	the ability of an aquatic ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region.
Biological Monitoring or Biomonitoring	use of a biological entity as a detector and its response as a measure to determine environmental conditions. Ambient biological surveys and toxicity tests are common biological monitoring methods.
Biological Survey or Biosurvey	collecting, processing, and analyzing a representative portion of the resident aquatic community to determine its structural and/or functional characteristics.
Bioregion	any geographical region characterized by a distinctive flora and/or fauna.
Clean Water Act	an act passed by the U.S. Congress to control water pollution (formerly referred to as the Federal Water Pollution Control Act of 1972). Public Law 92-500, as amended. 33 U.S.C. 1251 et seq.
Clean Water Act 303(d)	This section of the Act requires States, territories, and authorized tribes to develop lists of impaired waters for which water quality standards are not being met, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. States, territories, and authorized tribes are to submit their list of waters on April 1 in every even-numbered year.
Clean Water Act 305(b)	biennial reporting requires description of the quality of the Nation's surface waters, evaluation of progress made in maintaining and restoring water quality, and description of the extent of remaining problems.
Criteria	limits on a particular pollutant or condition of a waterbody presumed to support or protect the designated use or uses of a waterbody. Criteria may be narrative or numeric.
Data Quality Objectives	qualitative and quantitative statements developed by data users to specify the quality of data needed to support specific decisions; statements about the level of uncertainty that a decision maker is willing to accept in data used to support a particular decision.
Data Storage and Retrieval System (STORET)	EPA's largest computerized environmental data system; repository for biological, chemical, and physical data used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others.

Designated Use	classification specified in water quality standards for each waterbody or segment describing the level of protection from perturbation afforded by the regulatory programs. The designated aquatic life uses established by the state or authorized tribes set forth the goals for the restoration and/or baseline conditions for maintenance and prevention from further degradation of the aquatic life in specific waterbodies.
Ecological Data Application System (EDAS)	relational database system that allows the user to input, compile, and analyze complex ecological data to make assessments of ecosystem condition.
Ecological Integrity	the condition of an unimpaired ecosystem as measured by combined chemical, physical (including habitat), and biological attributes.
Ecoregion	a relatively homogeneous ecological area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.
Environmental Monitoring and Assessment Program	a US EPA research program to develop the tools necessary to monitor and assess the status and trends of national ecological resources. EMAP's goal is to develop the scientific understanding for translating environmental monitoring data from multiple spatial and temporal scales into assessments of ecological condition and forecasts of the future risks to the sustainability of our natural resources.
Eutrophication	enrichment of a waterbody with nutrients, resulting in high levels of primary production, often leading to depletion of dissolved oxygen.
Habitat	a place where the physical and biological elements of ecosystems provide a suitable environment including the food, cover, and space resources needed for plant and animal livelihood.
Historical Data	data sets from previous studies, which can range from handwritten field notes to published journal articles.
Index of Biological/Biotic Integrity	an integrative expression of site condition across multiple metrics. An index of biological integrity is often composed of at least seven metrics.
Least Disturbed/Impaired	the physical, chemical and biological conditions of a site, reach, segment, or water body that has the least amount of human disturbance in comparison to others within the water body, class, region, or basin. Least disturbed conditions change over time as land use and management practices change and, therefore, are not a "target" or upper bound of water quality potential (Best available current condition).
Macroinvertebrates	see Benthic Macroinvertebrates.

Macrophytes	large aquatic plants that may be rooted, unrooted, vascular, or algiform (such as kelp); includes submerged aquatic vegetation, emergent aquatic vegetation, and floating aquatic vegetation.
Metric	a calculated term or enumeration representing some aspect of biological assemblage, function, or other measurable aspect and is a characteristic of the biota that changes in some predictable way with increased human influence.
Minimally Disturbed/Impaired	the physical, chemical and biological conditions of a site, reach, segment, or water body in the absence of significant, or with minimal, human disturbance. Historical information or models may be used to help describe the minimally disturbed condition. Minimally disturbed conditions change little over time mostly due to natural processes and, therefore, provide a "target" or upper bound of water quality potential (Best potential condition).
Multimetric Index	an index that combines indicators, or metrics, into a single index value. Each metric is tested and calibrated to a scale and transformed into a unitless score prior to being aggregated into a multimetric index. Both the index, and metrics, are useful in assessing and diagnosing ecological condition. See Index of Biotic Integrity.
Multivariate Analysis	statistical methods (e.g. ordination or discriminant analysis) for analyzing physical and biological community data using multiple variables.
Narrative Biocriteria	general statements of attainable or attained conditions of biological integrity and water quality for a given designated aquatic life use.
Nonpoint Source Pollution	pollution that occurs when rainfall, snowmelt, or irrigation water runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.
Numeric Biocriteria	specific quantitative measures (metrics) of desired level of biological condition.
Perennial Streams	permanently inundated surface stream courses. Surface water flows throughout the year except in years of drought.
Periphyton	a broad organismal assemblage composed of attached algae, bacteria, their secretions, associated detritus, and various species of microinvertebrates.
Point Source	an origin of pollutant discharge that is known and specific, usually thought of as effluent from the end of a pipe.
Precision	the degree of variation among individual measurements of the same property, usually obtained under similar conditions.

Quality Assurance	includes quality control functions and involves a totally integrated program for ensuring the reliability of monitoring and measurement data; the process of management review and oversight at the planning, implementation, and completion stages of environmental data collection activities. Its goal is to assure that the data provided are of the quality needed and claimed.
Quality Assurance Plan	a written document that describes the quality assurance procedures, quality control requirements, and other technical activities that must be implemented to ensure that the results of the project or task to be performed will meet project requirements; contains several important guidelines for a program to follow such as objectives and milestones for achieving those objectives, lines of responsibility, accountability of staff for meeting data quality objectives, and accountability for ensuring precision, accuracy, completeness of the data collection activities, and documentation of the sample custody process.
Quality Control	refers to the routine application of procedures for obtaining prescribed standards of performance in the monitoring and measurements process; focuses on the detailed technical activities needed to achieve data of the quality specified by data quality objectives. Quality control is implemented at the bench or field level.
Quality Management Plan	a document that describes an organization's quality system. It identifies the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of authority, and its processes for planning, implementing, documenting, and assessing all activities conducted under the organization's quality system.
Rapid Bioassessment Protocols	cost-effective techniques used to survey and evaluate the aquatic community to detect aquatic life impairments and their relative severity.
Reference Condition	the set of selected measurements or conditions of unimpaired or minimally impaired waterbodies characteristic of a waterbody type in a region.
Reference Site	a specific locality on a waterbody which is unimpaired or minimally impaired and is representative of the expected ecological integrity of other localities on the same waterbody or nearby waterbodies.
Regional Environmental Monitoring and Assessment Program	a US EPA program initiated to assess the applicability of the EMAP approach to answer questions about ecological conditions at regional and local scales. REMAP conducts projects at smaller geographic scales and in shorter time frames than the national EMAP program.
Regional Reference Condition	a description of the chemical, physical, or biological condition based on an aggregation of data from minimally impaired sites that are representative of a waterbody type in an ecoregion, subecoregion, watershed, or political unit.

River Invertebrate Prediction and Classification System	a predictive method developed for use in the United Kingdom to assess water quality using a comparison of observed biological species distributions to those expected to occur based on a model derived from reference data.
River Reach File 3	a national database of 1:100,000 scale Digital Line Graph (DLG) hydrography data in a processed, edgematched, hydrologically networked format. RF3 data are a "directed network" dataset meaning that all stream segments, or reaches, are ordered in a uniform direction.
Sensitivity	capability of a method or instrument to discriminate between measurement responses of a variable of interest.
Standard Operating Procedures	a set of written instructions that document a routine or repetitive activity. SOPs describe both technical and administrative operational elements of an organization that would be managed under a Quality Assurance Project Plan and under an organization's Quality Management Plan.
Stressors	physical, chemical, and biological factors that adversely affect aquatic organisms.
Taxa	a grouping of organisms given a formal taxonomic name such as species, genus, family, etc.
Total Maximum Daily Load	calculation of the maximum amount of a pollutant a waterbody can receive and still meet water quality standards and an allocation of that amount to the pollutant's source.
Use Attainability Analysis	structured scientific assessment of the physical, chemical, biological and economic factors affecting attainment of the uses of waterbodies.
Water Quality Standards	a law or regulation that consists of the beneficial designated use or uses of a waterbody, the narrative or numerical water quality criteria (including biocriteria) that are necessary to protect the use or uses of that particular waterbody, and an antidegradation statement.
Water Resource Management (Non-Regulatory)	decisions on management activities relevant to a water resource such as problem identification, need for and placement of best management practices, pollution abatement actions, and effectiveness of program activity.
Zooplankton	refers to animals which are unable to maintain their position or distribution independent of the movement of water or air.